

AMENDMENTS

In the Claims:

1. (Currently Amended) An induction heating device for inductively heating an object to be heated which is formed of conductive material, comprising:

a holder; ~~and~~

a coil for inductively heating the object, the coil being composed of a plurality of turns of conductor forming a layer which is supported by the holder and is positioned along the object, wherein a gap is formed between conductor sections of the coil through which electric currents respectively flow in the same direction, the gap being used for detecting a temperature of the object; and

an infrared sensor to detect infrared rays passing through the gap.

2. (Original) An induction heating device as claimed in claim 1, wherein the holder comprises a core made of magnetic material.

3. (Original) An induction heating device as claimed in claim 1, wherein a temperature sensor is provided in the gap so as to face the object.

4. (Original) An induction heating device as claimed in claim 1, wherein the object consists of a body of rotation, and the holder and the coil are positioned outside the body of rotation.

5. (Withdrawn) An induction heating device as claimed in claim 1, wherein the object consists of a hollow body of rotation, and the holder and the coil are positioned in hollow space in the hollow body of rotation.

6. (Withdrawn) An induction heating fixing device of induction heating type for fixing a toner image to a sheet while conveying the sheet, comprising:

a fixing member formed of conductive material;

a pressurizing member for temporarily pinching the sheet being conveyed, between the pressurizing member and the fixing member, the pressurizing member being provided in pressure contact with the fixing member;

a holder; and

a first coil for inductively heating the fixing member, the coil being composed of a plurality of turns of conductor forming a layer which is supported by the holder and is positioned along the fixing member,

wherein a gap is formed between conductor sections of the coil which extend in a direction parallel to width direction of the sheet being conveyed through pinching part between the fixing member and the pressurizing member and through which electric currents respectively flow in the same direction, the gap being used for detecting temperature of the fixing member.

7. (Withdrawn) An induction heating fixing device as claimed in claim 6, wherein the holder comprises a core made of magnetic material.

8. (Withdrawn) An induction heating fixing device as claimed in claim 6, wherein a temperature sensor is provided in the gap so as to face the fixing member.

9. (Withdrawn) An induction heating fixing device as claimed in claim 6, wherein the fixing member consists of a body of rotation, and the holder and the coil are positioned outside the body of rotation.

10. (Withdrawn) An induction heating fixing device as claimed in claim 6, wherein the fixing member consists of a hollow body of rotation, and the holder and the coil are positioned in hollow space in the hollow body of rotation.

11. (Withdrawn) An induction heating fixing device as claimed in claim 6, wherein the fixing member consists of a body of rotation that is rotated about a central axis, the holder has a protrusion extending toward the body of rotation and wound in the coil, and the gaps in the coil are provided on upstream side and downstream side of the protrusion of the holder with respect to rotation direction of the fixing member.

12. (Withdrawn) An induction heating fixing device as claimed in claim 6, further comprising a second coil for heating a second region of the fixing member wherein the second region is different from a first region of the fixing member heated by the first coil with, respect to the width direction of the sheet.

13. (Withdrawn) An image forming apparatus comprising an image forming unit for forming a toner image and an induction heating fixing device of induction heating type for fixing to a sheet the toner image formed by the image forming unit while conveying the sheet, comprising:

a fixing member formed of conductive material;

a pressurizing member for temporarily pinching the sheet being conveyed between the pressurizing member and the fixing member, the pressurizing member being provided in pressure contact with the fixing member;

a holder; and

a coil for inductively heating the fixing member, the coil being composed of a plurality of turns of conductor forming a layer which is supported by the holder and is positioned along the fixing member,

wherein a gap is formed between conductor sections of the coil which extend in a direction parallel to width direction of the sheet being conveyed through pinching part between the fixing member and the pressurizing member and through which electric currents respectively flow in the same direction, the gap being used for detecting temperature of the fixing member.

14. (New) An induction heating device as claimed in claim 1, wherein the infrared sensor is positioned outside the layer formed by the plurality of turns of the conductor.